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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/670,441

09/25/2003

R. Lal Kushwaha

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03/24/2005

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EXAMINER

ELLINGTON, ALANDRA

ART UNIT

PAPER NUMBER

2855

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/670,441

Applicant(s)

KUSHWAHA ET AL.

Examiner

Alandra Ellington

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 6, 7, 9-11, 15, 16, 18 and 19 is/are rejected.
- 7) ☒ Claim(s) 2-5, 8, 12-14 and 17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Application 60/414,406 should be filed under 35 U.S.C. 119(e) because it is a US provisional application.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it contains legal phraseology such as "comprises" (line 2). Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1,7,9,11,16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Kramer et al (5,269,190) (hereinafter Kramer).

a. With respect to Claim 1, Kramer discloses an apparatus for measuring the displacement of, and force on, visco-elastoplastic media below a surface thereof, the apparatus comprising: an upper plate (1) having a top surface and mounted in the apparatus such that a displacement force exerted on the top surface will move the upper plate (1) a displacement distance downward toward a base (3); guides (2) operative to maintain the upper plate (1) and the base (3) in alignment such that movement of the upper plate (1) toward the base (3) is along a displacement axis (col. 5 lines 24-28 {Figs. 1,3}); a calibrated bias element (4,4',6,20) operative to exert a calibrated bias force resisting movement of the upper plate (1) toward the base (3) (col. 5 lines 53-60 {Fig. 1}); a displacement measuring device (8-10) operative to measure the displacement distance moved by the upper plate (1) towards the base (3), and operative to generate a movement signal corresponding to the displacement distance (col. 5 lines 47-60, col. 6 lines 38-56); and a data acquisition system (25,26,28-31) operative to receive and record the movement signal, and operative to calculate the displacement force exerted on the top surface of the upper plate (1) required to move the upper plate (1) the displacement distance against the calibrated bias force (col. 6 lines 24-34,40-56 {Fig. 3}).

- b. With respect to Claim 7, Kramer discloses the apparatus of Claim 1 further comprising a displacement limiting assembly operative to limit the displacement distance (col. 3 lines 36-60 {Fig. 1}).
- c. With respect to Claim 9, Kramer discloses the apparatus of Claim 9 wherein the guides comprise an upper casing member (4,17) telescoping with respect to a lower casing member (2,13), wherein the upper plate (1) is fixed to the upper casing member (17) and the base (3) comprises the lower case member (2,13) (col. 5 lines 25-33,50-68, col. 6 lines 1-22 {Fig. 1}).
- d. With respect to Claim 11, Kramer discloses a method of measuring the displacement of, and force on, visco-elastoplastic media below a surface thereof, the method comprising: providing an upper plate (1) having a top surface, and a base (3) located at a desired depth under the surface of the visco-elastoplastic media; orienting the upper plate (1) relative to the base (3) such that a displacement force exerted on the top surface will move the upper plate (1) a displacement distance downward toward the base (3); with guides (2), maintaining the upper plate (1) and the base (3) in alignment such that movement of the upper plate (1) toward the base (3) is along a displacement axis (col. 5 lines 24-28 {Figs. 1,3}); providing a calibrated bias element (4,4',6,20) operative to exert a calibrated bias force resisting movement of the upper plate (1) toward the base (3) (col. 5 lines 53-60 {Fig. 1}); exerting a load force on the visco-elastoplastic media and measuring the displacement distance moved by the upper plate (1) towards the base (3) in response to the load force; and

recording the displacement distance, and calculating the displacement force exerted on the top surface of the upper plate (1) required to move the upper plate (1) the displacement distance against the calibrated bias force (col. 6 lines 24-34,40-56 {Fig. 3}).

e. With respect to Claim 16, Kramer discloses the method of Claim 11 further comprising limiting the displacement distance (col. 3 lines 36-60 {Fig. 1}).

f. With respect to Claim 18, Kramer discloses the method of Claim 11 wherein the guides comprise an upper casing member (4,17) telescoping with respect to a lower casing member (2,13), wherein the upper plate (1) is fixed to the upper casing member (17) and the base (3) comprises the lower case member (2,13) (col. 5 lines 25-33,50-68, col. 6 lines 1-22 {Fig. 1}).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kramer (5,269,190) in view of Esser et al (US 2003/0188585) (hereinafter Esser).

a. With respect to Claims 6 and 15, Kramer discloses the claimed invention except for a spring having a known spring constant such that the displacement force required to move the upper plate through the displacement distance toward the base can be calculated. Esser teaches a spring having a known spring

constant such that the displacement force required to move the upper plate through the displacement distance toward the base can be calculated (pg. 5 [0035], pg. 6 [0040], pg. 7 [0043]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kramer with the teaching of Esser to include a spring having a known spring constant for the purpose of determining a decision parameter in order to accurately perform dynamic mechanical analysis (see Esser, pg. 2 [0012], pg. 5 [0035], pg. 6 [0040], pg. 7 [0043]).

7. Claims 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kramer (5,269,190).

a. With respect to Claims 10 and 18, Kramer discloses the claimed invention except for specifically teaching soil as the visco-elastoplastic media. However, Kramer does teach an apparatus that determines rheological measurements on viscous, viscoelastic and purely elastic materials (col. 1 lines 6-45). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kramer to include soil as the visco-elastoplastic media for the purpose of determining physical dimensions and mechanical properties of both stiff and soft objects (col. 1 lines 6-45, col. 4 lines 1-5).

Allowable Subject Matter

8. Claims 2,8,12,13 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: The reasons for the indication of allowable subject matter are based on the inclusion of:

- a. In Claims 2 and 12, a Hall effect displacement measuring assembly.
- b. In Claim 8, an accelerometer attached to the base and operative to measure movement along the displacement axis of the base.
- c. In Claim 13, the method step of recording the displacement distance as the displacement distance changes over a time period.
- d. In Claim 17, the method step of measuring movement of the base along the displacement axis with respect to the visco-elastoplastic media with an accelerometer attached to the base.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(4,196,618) (4,266,878) (5,305,634)

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alandra Ellington whose telephone number is (571) 272-2178. The examiner can normally be reached on Monday - Friday, 7:30am - 4:00pm.

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12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alandra Ellington
Art Unit 2855



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